Chemical reactions

IGCSE Chemistry · Vocabulary in context

Word	Example
physical change /ˈfɪzɪkl tʃeɪndʒ/	Melting ice is a **physical change**: no new substance forms.
chemical change /ˈkemɪkl tʃeɪndʒ/	Burning wood is a **chemical change**: new substances form.
precipitate /prɪˈsɪpɪteɪt/	A white **precipitate** forms when silver nitrate meets chloride ions.
rate of reaction /reɪt ɒv rɪˈækʃn/	The **rate of reaction** is faster at higher temperature.
reactants /rɪˈæktənts/	Hydrogen and oxygen are the **reactants** that make water.
products /ˈprɒdʌkts/	Burning carbon gives one of the **products**: carbon dioxide.
collision theory /kəˈlɪʒn ˈθɪəri/	**Collision theory** explains reactions through successful particle collisions.
particles /ˈpɑːtɪklz/	The **particles** in a gas move all the time.
collide /kəˈlaɪd/	Particles must **collide** to react.
activation energy /ˌæktɪˈveɪʃn ˈenədʒi/	A match gives the **activation energy** to start the fire.
concentration /ˌkɒnsənˈtreɪʃn/	The **concentration** of the acid is 2 mol/dm^3. 2 mol/dm^3
pressure /ˈpreʃə/	A sharp knife puts a large **pressure** on the bread.

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surface area /ˈsɜːfɪs ˈeərɪə/	Smaller solid pieces provide more **surface area** for reaction.
kinetic energy /kɪˈnetɪk ˈenədʒi/	A fast car has a lot of **kinetic energy**.
catalyst /ˈkætəlɪst/	A **catalyst** speeds up a reaction without being used up.
enzymes /ˈenzaɪmz/	**Enzymes** speed up reactions in the body.
syringe /sɪˈrɪndʒ/	We collect the gas in a **syringe** to measure its volume.
reversible reaction /rɪˈvɜːsɪbl rɪˈækʃn/	A **reversible reaction** can go both ways.
hydrated /haɪˈdreɪtɪd/	Blue copper sulfate is **hydrated**: it contains water.
anhydrous /ænˈhaɪdrəs/	White **anhydrous** copper sulfate turns blue when water is added.
closed system /kləʊzd ˈsɪstəm/	In a **closed system**, nothing can get in or out.
equilibrium /ˌiːkwɪˈlɪbrɪəm/	The book is in **equilibrium** because the forces balance.
forward reaction /ˈfɔːwəd rɪˈækʃn/	In the **forward reaction**, nitrogen and hydrogen make ammonia.
reverse reaction /rɪˈvɜːs rɪˈækʃn/	In the **reverse reaction**, ammonia breaks down again.
position of equilibrium /pəˈzɪʃn ɒv ˌiːkwɪˈlɪbrɪəm/	Changing pressure can shift the **position of equilibrium**.
endothermic /ˌendəʊˈθɜːmɪk/	The reaction is **endothermic**: it takes in heat.

Word	Example
exothermic /egzəˈθɜːmɪk/	The reaction is **exothermic**: it gives out heat.
Haber process /ˈheɪbə ˈprəʊses/	The **Haber process** makes ammonia.
hydrogen /ˈhaɪdrədʒn/	**Hydrogen** gas burns with a squeaky pop.
methane /ˈmiːθeɪn/	Cows give off **methane**.
nitrogen /ˈnaɪtrədʒn/	Air is mostly **nitrogen**.
iron /ˈaɪən/	**Iron** rusts when it meets water and oxygen.
Contact process /ˈkɒntækt ˈprəʊses/	The **Contact process** makes sulfuric acid.
sulfur /ˈsʌlfɜː/	**Sulfur** burns with a blue flame.
oxygen /ˈɒksɪdʒn/	Things burn faster in pure **oxygen**.
vanadium(V) oxide /vəˈneɪdɪəm ˈɒksaɪd/	**Vanadium(V) oxide** is the catalyst for making sulfuric acid.
compromise /ˈkɒmprəmaɪz/	A **compromise** temperature balances reaction speed and product yield.
oxidation /ˌɒksɪˈdeɪʃn/	**Oxidation** is the loss of electrons.
reduction /rɪˈdʌkʃn/	**Reduction** is the gain of electrons.
redox reaction /rɪˈdɒks rɪˈækʃn/	In a **redox reaction**, one substance loses electrons and another gains them.
electrons /ɪˈlektrɒnz/	**Electrons** move around the nucleus.

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Word	Example
oxidation number /ˌɒksɪˈdeɪʃn ˈnʌmbə/	In H2O, oxygen has an **oxidation number** of −2. H2O −2
oxidising agent /ˈɒksɪdaɪzɪŋ ˈeɪdʒənt/	Oxygen is an **oxidising agent**.
reducing agent /rɪˈdjuːsɪŋ ˈeɪdʒənt/	Carbon is a **reducing agent** in a blast furnace.
potassium manganate(VII) /pəˈtæsɪəm ˈmæŋgəneɪt/	Purple **potassium manganate(VII)** loses its colour when it reacts.
potassium iodide /pəˈtæsɪəm ˈaɪədaɪd/	**Potassium iodide** turns brown when it reacts with chlorine.
iodine /ˈaɪədiːn/	**Iodine** is a dark grey solid in Group 7. 7